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| ANTHONY ASQUITH 28-461 COLUMBIA STREET WEST WATERLOO, ON N2T 2P5 CANADA | | | EXAMINER POPOVIC, BOJAN | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/765,032

Applicant(s)

EDWARD CHAMP ET AL.

Examiner

Bojan Popovic

Art Unit

3709

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/28/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Reference numeral 70 shown in Figure 8 is not described in the specification.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference numeral 52, indicating the sampling port, is not shown in the figures.

The drawings are also objected to because reference numeral 39 and 40 point to the same feature shown in Figure 5. The Examiner believes, but is unsure, that reference numeral 39 should point to the inner annular space of the adapter 40.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

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of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities:

The specification, abstract, and claims lack page number indication pursuant to 37 CFR 1.52(b) and outlined in section 608.01 of the MPEP.

In paragraph [0033], line 1 of the specification, it is not clear to which stem the coil spring 23 is screwed onto. The examiner believes the word "stem" should be followed by reference numeral 24, but is unsure.

In paragraph [0046], lines 2 and 4 of the specification, the word "adapter" is not followed by the appropriate indicia in the drawings. The examiner believes the word "adapter" should be followed by reference numeral 40, but is unsure.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-5, and 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claims 3, 4 and 7, the word "surface" has an indefinite meaning since there is no antecedent basis identifying which surface the claims are referring to. The "surface" may be construed to mean the surface of the tube, surface of the end-fitting, or the ground surface. The examiner believes, but is unsure, that the word "surface" used in claims 3, 4 and 7 should be changed to "ground surface" to give a clear meaning to the term.

Regarding Claims 5 and 9, the terms "slightly held apart" used in Claim 5 and "permit a degree of up/down float" have relative meanings. The terms "slightly" and "a degree" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Regarding Claim 8, the phrase "... as to limit the vertical movement ..." is indefinite. It is unclear whether the term "limit" calls for a fixed relationship between the long tube and the adapter piece, or if there may be an allowance for a limited amount of movement between the two members.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sampson (U.S. Patent 5,076,615) in view of Morse (U.S. Patent 5,340,167).

Regarding Claims 1 and 2, attention is directed to figure 13 of the Sampson reference where a tube in combination with an end-fitting is illustrated. Although the tube disclosed in the Sampson reference is not necessarily made of a heat shrinkable material, one of ordinary skill in the art can readily appreciate that various types of tubes may be substituted in the Sampson reference without deviating from the scope of the invention.

For instance, a heat-shrinkable tube disclosed in Morse may be substituted in the Sampson reference without changing the objective of the invention. Furthermore, the Sampson reference teaches an end fitting, which may be fabricated from a rigid plastic or metal (Col. 9, Lines 3-5), that has a protruding stem (Col. 4, Lines 29-32) over which the tube is attached (Col. 4, Lines 35-39). The stem of the Sampson reference is provided with a grooved surface over which the tube is to be inserted. The purpose of the grooves is to prevent radial rotation and axial movement of the hose with respect to the end-fitting. In addition to providing a grooved stem, the Sampson reference also teaches a clamp which is used to secure the tube to the end-fitting.

This method of securing tubular members to the corresponding connectors is well known in the art, and it will be appreciated by one of ordinary skill in the art that numerous variations have been historically used. Clamps of various shapes, including

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helical coil springs which may be tightened around the fitting have been commercially available for decades. When such clamps are secured to the end-fitting, the tube wall lies pinched and compressed between the clamp and the grooves on the end-fitting. The clamps are dimensionally related to the end fittings and tubes such that they provide a secure connection without causing damage to the tube wall. As the Sampson reference discloses and as is well known in the art, this method of fastening is particularly suited for low pressure applications which include the present invention.

It is also well known in the art that the end portion of the tube is placed over the end-fitting, and the connection is secured by a clamping means. In case of heat-shrinkable tubing, the tube may be heat-shrunk to the fitting before the connection is secured by a clamping means. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to use the apparatus taught by the Sampson reference and combine it with the heat-shrinkable tubing disclosed by the Morse reference and create an apparatus where a heat-shrinkable tubing is placed over an end-fitting and the connection is secured with a helical coil spring.

5. Claims 3, 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sampson (U.S. Patent 5,076,615) in view of Morse (U.S. Patent 5,340,167) and in further view of Anderson (U.S. Patent 6,382,933).

The teachings of Sampson reference in view of the Morse reference are used in rejecting the independent claim 1. The combination of the above named references teaches a system where a tubular member is attached to an end-fitting with an

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appropriate clamping means. Although the Sampson reference does not teach the use of heat-shrinkable tubing, it would be readily apparent to one of ordinary skill in the art that various types of tubing, including heat-shrinkable kind, may be used with the Sampson reference without deviating from the intended scope of the invention. The Sampson and Morse references; however, do not teach a bladder pump apparatus useful in extracting a fluid sample from a borehole.

Attention is now directed to the Anderson reference, which teaches a bladder-pump apparatus which is used for extracting liquid samples from the ground and conveying the samples to the surface (Col. 1, Lines 6-10). The bladder-tube of the bladder pump comprises a cylindrical flexible bladder (Col. 4, Lines 11-17). The Anderson reference also teaches a bladder pump which has an entry port which connects the interior of the bladder with the liquid in the borehole (Col. 4, Lines 58-61), lower and upper check valves to regulate the flow of the sampling fluid through the bladder (Col. 5, Lines 2-3 and 14-15). The apparatus disclosed by the Anderson reference also discloses a sample transfer pipe (Col. 4, Line 27), and a pump casing of a relatively robust character (Col 6, Lines 10-11). The apparatus is controlled by an operable pressure-controller (Col. 3, Lines 21-28).

Additionally, the Anderson reference teaches a bladder-pump comprising an upper-bladder end-fitting to which the sample transfer pipe is physically coupled and structured in such a way as to sealingly convey the liquid from inside the bladder tube (Col. 4, Lines 17-23).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to use the tube and end-fitting apparatus of Sampson and Morse and combine them with the bladder pump of the Anderson reference. In order for the Anderson reference to function as disclosed, it would be necessary that the bladder pump apparatus has some kind of tube and end fitting connection. Since these features are inherent to the Anderson reference, it would have been obvious to use the tube and end fitting disclosed by Sampson and Morse.

6. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sampson (U.S. Patent 5,076,615) in view of Morse (U.S. Patent 5,340,167) in further view of Anderson (U.S. Patent 6,382,933).and in further view of McCall et al. (U.S. Patent 6,877,965).

The independent claim 1 was rejected as an obvious combination of the teaching of Sampson and Morse references. Additionally, as it is described above, the Sampson and Morse references, when included as part of a bladder pump taught by Anderson, have all of the limitations of Claims 3 and 4. The Anderson reference also teaches an upper end fitting which includes a long tube attached to the sample transfer tube which is disposed within the main outer tube. Figure 3a of the Anderson reference illustrates the upper-end-fitting along with the associated tubes. Figure 3a also defines an internal passageway within the upper-end fitting, which is in fluid communication with the annular spaces above and below the end fitting and contains a tube within the hollow passageway. The combination of the above named references; however, does not teach the an adapter piece taught by Claim 7.

Attention is now directed to the McCall et al. reference, which does disclose an adapter as part of a bladder pump. The adapter (reference numeral 23) is positioned within the bladder pump as to divide the pump casing into upper and lower portions and provide a sealable interface with the upper and lower portions. The upper and lower portions of the pump tube are equivalent to the main-outer-tube and pump-outer-tube, respectively, as claimed by the present invention. This configuration is apparent from figure 2 of the McCall et al. reference. The bladder tube (11) is disposed within the lower portion of the pump casing, and an annular space is present between the bladder tube and the pump wall. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify the bladder pump system taught by Sampson, Morse and Anderson with the adapter piece of the McCall et al. reference. This modification would not change the intended scope of the invention and it would be advantageous since the pump components could be suspended from the adapter piece as opposed to being suspended from the pump long tube.

Regarding Claims 8-10, the upper end fitting of the Anderson reference is sealingly attached to the pump tube via the O-rings (reference numeral 42 in Fig 3a). This type of connection, depending on the size and kind of O-ring used, can be structured to either fix the location of the end-fitting with respect to the pump tube or allow the end-fitting to slide/rotate within the pump tube. For instance, the size of the O-ring 42 will dictate whether the adapter piece can move within the long tube or stay in a fixed position. This range of types of mechanical connection between the adapter piece and the long tube meets the limitations of claims 8-10. At the time the invention was

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made, it would have been obvious to one of ordinary skill in the art to modify the bladder pump system taught by Sampson, Morse and Anderson with the adapter piece of the McCall et al. reference. The Anderson reference is inherently capable of having either a fixed or movable mechanical connection between the adapter piece and the long tube, and as previously stated, addition of McCall et al.'s adapter piece is an obvious modification of the Anderson bladder pump.

Allowable Subject Matter

7. Claim 5 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fiedler (U.S. Patent 5,183,391) and Parent et al. (U.S. Patent 6,758,274) both disclose pumping mechanisms used for sample extraction from boreholes.

Goett et al. (U.S. Patent 5,782,270) teaches a cable termination system comprising a threaded member.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bojan Popovic whose telephone number is (571) 270-

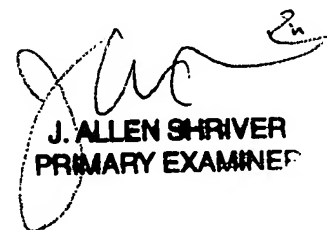
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1889. The examiner can normally be reached on Mon-Fri, 8:00AM-5:00PM EST,
Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jackson can be reached on (571) 272-4697. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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J. ALLEN SHRIVER
PRIMARY EXAMINER